LT BIOTECH UAB
Mokslininkų g. 6A,
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Persedex G-50 series

1. Basic product information

Persedex G-50 is a series of cross-linked dextran-based gel filtration chromatography resins that utilise molecular weight differences to separate molecules. This series consists of two types of chromatography resin with different particle sizes, arranged according to particle size from large to small, with suffixes of M and F respectively. This series of chromatographic resins can be used successfully for desalting of various biomolecules, buffer replacement, and separation and purification of small molecular substances such as peptides.
Persedex G-50 has excellent scale-up capabilities:
(1) It has a cross-linked dextran with reliable rigidity.
(2) A variety of packaging specifications are provided to meet the processing needs of samples of different volumes, and it is easy to scale up linearly.

2. Chromatography resin parameters

Item	G-50M	G-50F	G-50SF
Type	Gel filtration		
Matrix	Cross-linked dextran		
Separation range	1~30 kDa		1.5~30 kDa
Particle size range*	50~150 μm	20~80 μm	10~40 μm
Recommended flow rate	150 cm/h	80 cm/h	40 cm/h
Swelling coefficient	9–10 ml/g		9–11 ml/g
Maximum working pressure	3 bar		
Working temperature	4–30°C		

** Measured in dry powder state, the percentage distributed within the range ≥ 80%*

3. Chemical resistance

pH stability*	2–13
Tolerant	All commonly used aqueous buffers, 30% isopropanol**, 75% ethanol**, 1M NaOH, 1M acetic acid, 6M guanidine hydrochloride, 8M urea

** The physical and chemical properties and functions of the chromatography resin have no obvious changes after being placed in an environment of 40°C and pH 2–13 for 7 days.*

*** v/v, volume ratio*

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4. Method of use

4.1 Chromatographic conditions
(1) Buffer selection: the stability of the sample in the buffer should be considered; to avoid possible non-specific adsorption, it is advisable to use a salt-containing buffer instead of ultra pure or pure water.
(2) Flow rate: according to the height of the column bed, a linear flow rate not higher than indicated in the table «**Chromatography resin parameters**» is generally selected.
(3) Sample pretreatment: to prevent the sample from clogging the column, it needs to be filtered with a 0.45 μm microporous membrane before loading.

4.2 Chromatography steps
(1) Equilibration: use the buffer to fully equilibrate the chromatography column until the pH and conductivity are stable and basically the same as the equilibration buffer. This step usually requires 1–2 column bed volumes (CV).
(2) Sample loading: the usual loading volume is 1%–5% of the column volume, and the sample concentration should not be too high, to avoid overpressure or affecting the resolution.
(3) Elution: use buffer elution to collect peaks at different positions, usually 1~1.5 CV.
(4) Regeneration: rinse the column with a buffer containing high salt (such as 1M NaCl).
(5) Re-equilibration: re-equilibrate the column with buffer.

5. Cleaning and regeneration

Contaminants (e.g. lipids, endotoxins and proteins) accumulate on the column as the number of uses of the chromatography resin increases. Regular cleaning-in-place (CIP) is essential to keep the column in a stable working condition. Determine the frequency of CIP according to the degree of contamination of the chromatography resin (if the contamination is considerable, CIP is recommended after each use to ensure repeatability of results and to prolong the working life of the chromatography resin).
For different types of impurities and contaminants, the recommended cleaning conditions are as follows:
• Removal of strongly binding proteins: wash with 5 CV of 2M NaCl solution, or use a high salt buffer not lower than pH 3, such as 1M NaAc solution.
• Removal of strongly hydrophobic proteins and precipitated proteins: first wash with 5 CV of 0,2M NaOH solution, then wash the lye with 5–10 CV of ultra pure or pure water.
• Removal of lipoproteins and lipids: first wash with 5 CV of 70% ethanol or 30% isopropanol, then rinse with 5–10 CV of ultra pure or pure water.
Note: 70% ethanol or 30% isopropanol should be degassed before use; the flow rate should be no more then 30-60 cm/h during CIP; reverse cleaning can be used when the clogging is severe.

To reduce the microbial load, it is recommended that 0.2M NaOH solution is used to treat the chromatography resin for 30–60 minutes.

6. Storage

Keep the unopened chromatography resin in the original container and store at 4~30°C in a well-ventilated, dry and clean place. Do not freeze. Wash the used column with 2–3 CV of 20% ethanol solution and store at 2~8°C.

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7. Destruction and recycling

Since chromatography resin is difficult to degrade in nature, it is recommended that the discarded chromatography resin is incinerated to protect the environment. For chromatography resin that has been in contact with biologically active samples such as viruses and blood, follow the local biosafety requirements before destroying or disposing of it.

8. Packing method

Detailed information on resin packaging is available on request. Please contact your local distributor.

9. Ordering information

Product name: Persedex G-50M

Product Cat. No	Package
293-00100	100 ml
293-00500	500 ml
293-01000	1 L
293-05000	5 L

Product name: Persedex G-50F

Product Cat. No	Package
576-00100	100 ml
576-00500	500 ml
576-01000	1 L
576-05000	5 L

Product name: Persedex G-50SF

Product Cat. No	Package
292-00100	100 ml
292-00500	500 ml
292-01000	1 L
292-05000	5 L